International Seabed Authority ISBA/21/C/2

Council

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Report and recommendations of the Legal and Technical Commission to the Council of the International Seabed Authority relating to an application for the approval of a plan of work for exploration for polymetallic nodules by China Minmetals Corporation

I. Introduction

1. On 8 August 2014, the Secretary-General of the International Seabed Authority received an application from China Minmetals Corporation for the approval of a plan of work for exploration for polymetallic nodules in the Area (see ISBA/21/LTC/5). The application was submitted pursuant to the Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area (ISBA/19/C/17, annex). The area under application is located within the areas reserved for the Authority pursuant to article 8 of annex III to the United Nations Convention on the Law of the Sea, adopted in 1982.

2. In accordance with regulation 20, paragraph 1 (c) of the Regulations, by a note verbale dated 11 August 2014, the Secretary-General notified the members of the Authority of the receipt of the application and circulated information of a general nature concerning the application. The Secretary-General also placed consideration of the application on the agenda of the meeting of the Legal and Technical Commission held from 16 to 27 February 2015.

II. Methodology for consideration of the application by the Legal and Technical Commission

A. General methodology applied by the Commission in consideration of the application

3. In its consideration of the application, the Commission noted that, in keeping with the scheme established in article 6 of annex III to the Convention, it was first required to make an objective determination as to whether the applicant had fulfilled

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the requirements contained in the Regulations, particularly with respect to the form of applications; had provided the necessary undertakings and assurances specified in regulation 14; possessed the necessary financial and technical capability to carry out the proposed plan of work for exploration; and, as appropriate, had satisfactorily discharged its obligations under any previous contract with the Authority. The Commission was then required to determine, in accordance with regulation 21, paragraph 4, whether the proposed plan of work for exploration would provide for effective protection of human health and safety and for effective protection and preservation of the marine environment, and would ensure that installations were not established where interference might be caused to the use of recognized sea lanes essential to international navigation or in areas of intense fishing activity. Regulation 21, paragraph 5, provides that if the Commission makes the determinations specified in regulation 21, paragraph 3, and determines that the proposed plan of work for exploration meets the requirements of regulation 21, paragraph 4, the Commission shall recommend approval of the plan of work for exploration to the Council.

4. In considering the proposed plan of work for exploration for polymetallic nodules, the Commission took into account the principles, policies and objectives relating to activities in the Area, as provided for in part XI of and annex III to the Convention and in the 1994 Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982.

B. Consideration of the application

5. The Commission considered the application in closed meetings on 18, 19, 20 and 26 February 2015.

6. Prior to commencing a detailed examination of the application, the Commission invited the head of delegation, Feng Guiquan, Senior Vice President of China Minmetals Corporation, to make a presentation of the application. He was accompanied by Yang Ning, Assistant to General Manager of Changsha Institute of Mining and Research Co. Ltd., who presented the legal and technical aspects of the application. The following were also present: Liu Ningwu, General Manager, Science and Technology Management Department, China Minmetals Corporation; Wang Chunsheng, Researcher, Second Institute of Oceanography; He Gaowen, Deputy Chief Engineer, Guangzhou Marine Geological Survey; Bi Liyan, Deputy General Manager of Legal Affairs Division, China Minmetals Corporation; Li Maolin, Deputy General Manager of Changsha Institute of Mining and Research Co. Ltd.; Chen Xinming, Director of Changsha Institute of Mining and Research Co. Ltd.; Liao Bo, Project Manager, Science and Technology Management Department, China Minmetals Corporation; Zheng Hao, Project Assistant Manager, Science and Technology Management Department, China Minmetals Corporation; Zhou Yong, Deputy Director, Department of Treaty and Law, Ministry of Foreign Affairs of China; Zheng Cheng, Officer, Department of Treaty and Law, Ministry of Foreign Affairs of China; Wu Guanghai, Deputy Representative, Permanent Mission of China to the International Seabed Authority; and Li Linlin, Second Secretary, Permanent Mission of China to the International Seabed Authority. Members of the Commission then asked questions to clarify certain aspects of the application before convening in closed session to examine the application in detail. Following its initial consideration, the Commission decided to request its Chair to transmit a list

of questions to the applicant in writing. The written responses provided by the applicant, which supplemented the equivalent parts of the application originally submitted, were taken into account by the Commission in its consideration.

III. Summary of basic information regarding the application

A. Identification of the applicant

7. Information on the applicant is as follows:

(a) Name: China Minmetals Corporation;

(b) Street address: Plaza A, No. 3 Chaoyangmen North Avenue, Dongcheng District, Beijing, China;

(c) Postal address: same as above;

(d) Telephone number: 86 10 601 69000;

(e) Facsimile number: 86 10 601 67666;

(f) E-mail address: haoxu@minmetals.com;

(g) Applicant's place of registration and principal place of business/domicile: Beijing, China.

8. Information on the applicant's designated representative is as follows:

(a) Name: Zhou Zhongshu;

(b) Street address: same as in paragraph 7 above;

(c) Telephone number: same as in paragraph 7 above;

(d) Facsimile number: same as in paragraph 7 above;

(e) E-mail address: same as in paragraph 7 above.

9. The applicant provided the Commission with the latest copy of the renewed certificate of registration, issued on 9 July 2012 by the State Administration for Industry and Commerce of China, which attests to the applicant's existence and to its legal status as a State enterprise. The applicant also stated that it was under the effective control of the sponsoring State and had its headquarters in Beijing.

B. Sponsorship

10. The sponsoring State is China.

11. The date of deposit of China's instrument of ratification of the Convention and the date of its consent to be bound by the Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea is 7 June 1996.

12. The certificate of sponsorship is dated 8 July 2014 and signed by Liu Cigui, Administrator of the State Oceanic Administration of China.

13. The certificate of sponsorship states that the applicant is under the effective control of the sponsoring State, which declares to assume responsibility in

accordance with article 139 and paragraph 4 of article 153 of the Convention, and with article 4, paragraph 4, of annex III to the Convention.

C. Area under application

14. The area under application covers a surface area of 72,745 km^2 in the Clarion-Clipperton Fracture Zone of the Pacific Ocean. The reserved areas under application were contributed by Yuzhmorgeologyia, Interoceanmetal Joint Organization and China Ocean Mineral Resources Research and Development Association. The area consists of eight blocks, which are distributed across the Fracture Zone, as shown in the map in the annex to the present report. The blocks are referred to on the map as A-1 (8,661 km^2), A-2 (6,935 km^2), A-3 (5,747 km^2), A-4 (13,128 km^2), A-5 (22,821 km^2), A-6 (5,346 km^2), A-7 (5,537 km^2) and A-8 (4,570 km^2). The coordinates and general location of the areas under application are shown in the annex to the present document.

15. The Commission drew the attention of the applicant to the potential risks involved with the selection of small areas for exploration, given the constraints on activities in the Area that will arise from contractors executing their environmental obligations, including the establishment of impact reference zones and preservation reference zones.

D. Other information

16. In accordance with regulation 14, the application includes a written undertaking dated 2 July 2014 and signed by the applicant's designated representative (see paragraph 8 above).

17. The applicant also informed the Commission that it had considered the possible existence of submarine cables or pipelines in the area under application. The applicant stated that it attached great importance to the mutual accommodation of activities in the Area and in the marine environment, as stipulated in article 147 of the Convention and relevant provisions of the Regulations. In accordance with relevant international law, the applicant declared that it would take all necessary measures to ensure the proper protection of submarine cables or pipelines. It also indicated its willingness to cooperate actively and fully with the Authority and the owners and operators of submarine cables or pipelines.

18. The applicant has paid a fee of $500,000 in accordance with regulation 19.

IV. Examination of information and technical data submitted by the applicant

19. The following technical documents were submitted in the application:

(a) Information relating to the area under application:

(i) Boundaries of the area under application, by a list of geographic coordinates in accordance with the World Geodetic System 1984 geographical projection system, with the area calculated as being within Universal Transverse Mercator projection zone 6N;

(ii) Maps of the area under application;

(b) Information to enable the Council to determine whether the applicant is financially capable of carrying out the proposed plan of work for exploration;

(c) Information to enable the Council to determine whether the applicant is technically capable of carrying out the proposed plan of work for exploration;

(d) Plan of work for exploration;

(e) Training programmes.

V. Consideration of financial and technical qualifications of the applicant

A. Financial capacity

20. In evaluating the financial capacity of the applicant, the Commission noted that the applicant was an international conglomerate with activities in 34 countries. The applicant indicated that it was mainly engaged in metal and mineral exploration, mining, smelting, processing and trade, and in mining and metallurgical technology development. It produces hard alloys, antimony oxide and rare earth elements. The applicant stated that it was ranked 133rd in the Fortune Global 500 list, and second among metals companies. It declared itself financially capable of carrying out the proposed plan of work for exploration. In accordance with regulation 12, paragraph 4, the applicant provided a financial statement dated 25 June 2014 and signed by the Minister of Finance of China, certifying the applicant's financial capability to implement the proposed plan of work for exploration and to fulfil its financial obligations to the Authority. The applicant also declared that it is not affiliated with China Ocean Mineral Resources Research and Development Association and that both entities are separate legal persons.

B. Technical capacity

21. In evaluating the technical capacity of the applicant, the Commission noted that the applicant could draw on its extensive experience in exploration and metallurgical processing technology for polymetallic nodules, and in its conduct of at least 10 geological, geophysical and environmental surveys and sampling of polymetallic nodules, cobalt-rich ferromanganese crusts and polymetallic sulphides beginning in 1983. The applicant stated that it has since become an important stakeholder for China's deep-sea mining and resources processing, research and development, and is the most important State-owned laboratory of deep-sea mineral resource development. The applicant also declared that it would cooperate closely with the Guangzhou Marine Geological Survey and the Second Institute of Oceanography.

22. The applicant explained that the exploration activities would take place in three five-year phases. The aim of the planned surveys would be to obtain information and data required for mineral resource estimation, environmental assessments and mining and metallurgical tests. The objectives of the environmental studies and impact assessments were to establish environmental baselines of the

area under application and of adjacent areas and to delineate impact reference zones and preservation reference zones, as required by the environmental guidelines and recommendations of the Authority; to analyse the distribution and characteristics of communities and species; and to assess the potential environmental impact of polymetallic nodule mining. The proposed activities regarding mining and metallurgical processing technology involve research on, and upgrade of, key components; design of a commercial mining system and environmental impact assessment of mining tests; monitoring of possible impacts during and after testing; and development of new processing technology and new methods for the direct utilization of polymetallic nodules. With respect to mineral resource or reserve assessments, the planned work includes the study of the quality, quantity and distribution of polymetallic nodules, the estimation of inferred mineral resources, the conduct of feasibility studies and the estimation of mineral reserves, if the conditions are suitable.

23. The Commission was provided with detailed information on the applicant's objectives, schedules and methods, including proposed cruises, for the first five-year period. The applicant proposed to carry out geological sampling and geophysical surveys in order to delineate mineralized zones and estimate inferred resources. The applicant explained that it would conduct a preliminary environmental baseline survey for physics, biology, chemistry and geology, and a preliminary investigation on biodiversity, in the area under application and its adjacent areas. The development and testing of mining technology are also part of the proposed programme of activities and the applicant also proposes to conduct research on, and experimental validation of, key technology, and research on new methods of smelting and processing.

24. The Commission was also provided with technical information in relation to the applicant's previous experience, technical qualifications and expertise, and exploration methods and equipment relevant to the proposed plan of work for exploration, including research vessels, multibeam echo bathymetry, deep tow acoustic and sub-bottom profiling systems, autonomous underwater vehicles, and sampling equipment for environmental and geological surveying. The applicant declared its intent to cooperate with the Authority and its contractors, including those who contributed the reserved areas under application, in order to collect additional data and information and to carry out a comparison study.

25. The applicant also provided information related to the prevention, reduction and control of hazards to and possible impacts on the marine environment. The vessels to be used will conform to international safety and environmental practice standards, including the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto. The applicant stated that it had the capacity to respond to any incidents arising from the implementation of the proposed plan of work and declared that it would take preventive measures, follow best environmental practice and formulate appropriate contingency plans in accordance with the Regulations. The applicant indicated that an oil spill contingency plan and processing specifications were already in force. In order to respond to oil spill accidents, the research vessels had appropriate equipment, such as oil containment booms and oil collectors, and trained crews.

26. The Commission received information on the proposed programme of oceanographic and environmental baseline studies, which will focus on the

collection, analysis and reduction of physical, biological, chemical and geological environmental baseline data and samples, and the testing of potential mining collector systems. The applicant intends to cooperate extensively with other contractors and the international community. The application included a preliminary assessment of the possible impact of the proposed exploration activities on the marine environment in line with the Regulations and with the recommendations of the Commission for the guidance of contractors for the assessment of the possible environmental impacts arising from exploration for marine minerals in the Area (ISBA/19/LTC/8).

VI. Consideration of data and information submitted for approval of the plan of work for exploration for polymetallic nodules

27. In accordance with regulation 18, the application included the following information for approval of the plan of work for exploration:

(a) General description and a schedule of the proposed programme of activities for exploration to be undertaken in the first five-year period, such as studies to be undertaken in respect of the environmental, technical, economic and other appropriate factors that must be taken into account in exploration;

(b) Description of the programme for oceanographic and environmental baseline studies that will be carried out in accordance with the Regulations and environmental rules, regulations and procedures established by the Authority. These baseline studies will enable an assessment of the potential environmental impact of the proposed exploration activities, taking into account any recommendations issued by the Legal and Technical Commission;

(c) Preliminary assessment of the possible impact of the proposed exploration activities on the marine environment;

(d) Description of proposed measures for the prevention, reduction and control of pollution and other hazards to, as well as possible impacts on, the marine environment;

(e) Data necessary for the Council to make the determination it is required to make in accordance with regulation 12, paragraph 1;

(f) Schedule of anticipated yearly expenditures in respect of the programme of activities for the first five-year period.

VII. Training programmes

28. The applicant provided details about the training programmes, in accordance with regulation 27 and with section 8 of annex IV to the Regulations. The applicant proposed to provide training opportunities for 10 trainees from developing countries and the Authority during the first five-year period of the proposed plan of work for exploration. Participants will be offered a training programme on at-sea exploration or engineering, or a fellowship programme. The Commission acknowledged the willingness of the applicant to create other training opportunities, especially at-sea

training for scientists from developing countries, in cooperation with the Authority through its Endowment Fund and other resources.

VIII. Conclusion and recommendations

29. Having examined the particulars submitted by the applicant, which are summarized in sections III to VII above, the Commission is satisfied that the application has been duly submitted in accordance with the Regulations and that the applicant is a qualified applicant, as set out in articles 4 and 9 of annex III to the Convention and regulation 17. The Commission is further satisfied that the applicant:

(a) Has complied with the provisions of the Regulations;

(b) Has given the undertakings and assurances specified in regulation 14;

(c) Possesses the financial and technical capability to carry out the proposed plan of work for exploration.

30. The Commission is satisfied that none of the conditions in regulation 21, paragraph 6, apply.

31. The Commission is satisfied that the proposed plan of work for exploration will:

(a) Provide for effective protection of human health and safety;

(b) Provide for effective protection and preservation of the marine environment;

(c) Ensure that installations are not established where interference may be caused to the use of recognized sea lanes essential to international navigation or in areas of intense fishing activity.

32. Accordingly, pursuant to regulation 21, paragraph 5, the Commission recommends to the Council approval of the plan of work for exploration for polymetallic nodules submitted by China Minmetals Corporation.

Annex

A. List of coordinates of the area under application

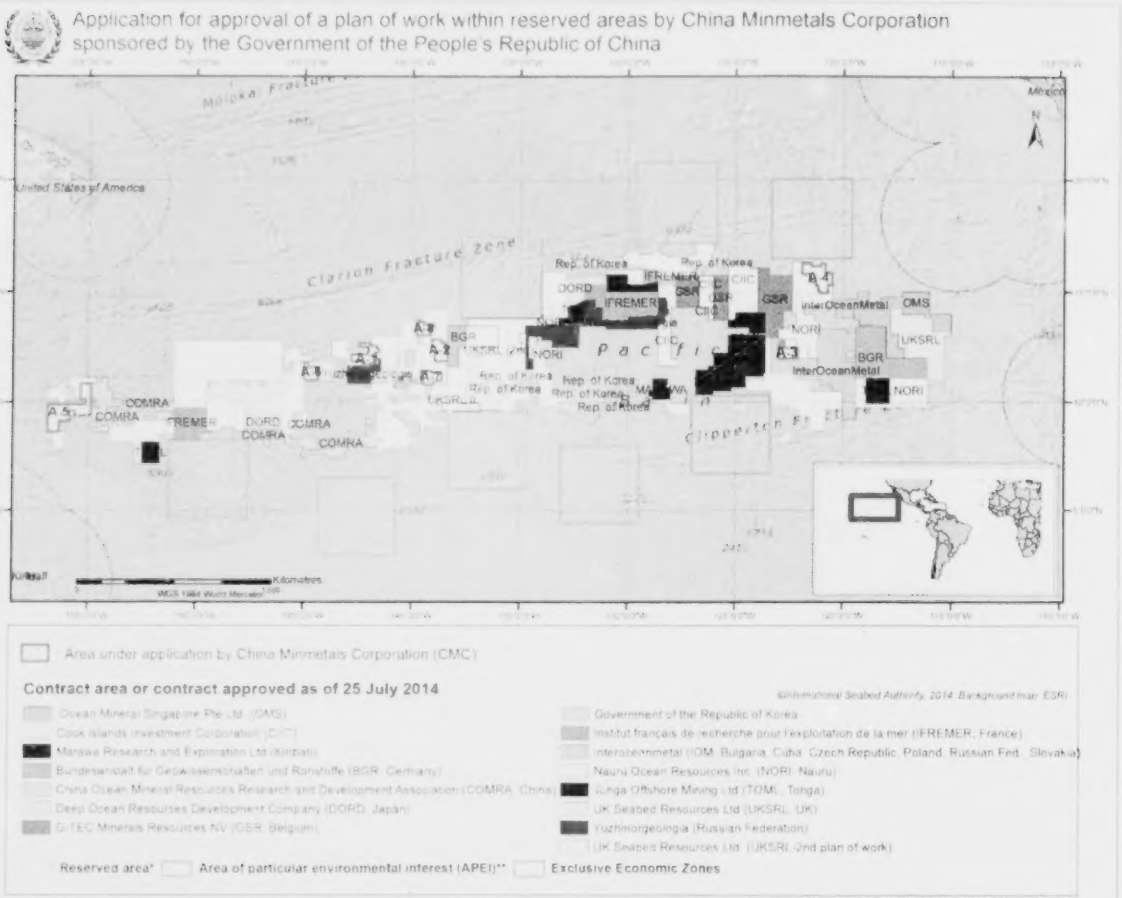
(In degrees, minutes, seconds format in accordance with the World Geodetic System 1984 geographical projection system)

Block number	*Turning point*	*Longitude West*			*Latitude North*		
		(degrees)	*(minutes)*	*(seconds)*	*(degrees)*	*(minutes)*	*(seconds)*
A-1	1	141	55	0.12	12	35	27.96
	2	141	37	49.44	12	35	27.96
	3	141	37	49.44	12	25	35.40
	4	141	30	59.76	12	25	35.40
	5	141	30	59.76	12	16	33.60
	6	141	40	27.12	12	16	33.60
	7	141	40	27.12	11	58	32.88
	8	141	37	21.72	11	58	32.88
	9	141	37	21.72	11	47	22.56
	10	142	0	20.52	11	47	22.56
	11	142	0	20.52	11	40	58.44
	12	142	16	35.40	11	40	58.44
	13	142	16	35.40	11	51	42.84
	14	142	50	17.88	11	51	42.84
	15	142	50	17.88	12	11	37.32
	16	142	2	6.00	12	11	37.32
	17	142	2	6.00	12	32	36.96
	18	142	26	5.28	12	32	36.96
	19	142	26	5.28	12	42	10.44
	20	141	55	0.12	12	42	10.44
A-2	1	138	38	43.08	12	44	9.24
	2	138	27	51.84	12	44	7.80
	3	138	27	51.84	12	26	22.56
	4	138	22	26.40	12	26	22.56
	5	138	22	26.40	11	51	57.24
	6	138	56	29.04	11	51	57.24
	7	138	56	29.04	12	13	41.88
	8	138	50	42.36	12	13	41.88
	9	138	50	42.36	12	19	51.60
	10	139	5	4.20	12	19	51.60
	11	139	5	4.20	12	52	30.90
	12	138	38	43.08	12	52	30.90
A-3	1	122	44	20.04	12	28	22.08
	2	122	5	45.60	12	28	22.08
	3	122	5	45.60	12	0	0.00

Block number	Turning point	Longitude West			Latitude North		
		(degrees)	(minutes)	(seconds)	(degrees)	(minutes)	(seconds)
	4	123	0	0.00	12	0	0.00
	5	123	0	0.00	12	28	13.80
	6	122	54	11.16	12	28	13.80
	7	122	54	11.16	12	46	57.00
	8	122	44	20.04	12	46	57.00
A-4	1	121	28	28.20	16	9	18.00
	2	121	2	29.76	16	9	18.00
	3	121	2	29.76	16	16	42.60
	4	120	49	51.96	16	16	42.60
	5	120	49	51.96	15	49	50.88
	6	120	30	8.28	15	49	50.88
	7	120	30	8.28	15	18	10.80
	8	120	42	53.28	15	18	10.80
	9	120	42	53.28	14	56	6.00
	10	121	5	51.36	14	56	6.00
	11	121	5	51.36	15	5	9.96
	12	121	10	24.24	15	5	9.96
	13	121	10	24.24	15	16	11.28
	14	121	16	32.52	15	16	11.28
	15	121	16	32.52	15	26	18.24
	16	121	30	55.44	15	26	18.24
	17	121	30	55.44	15	46	56.64
	18	121	53	52.80	15	46	56.64
	19	121	53	52.80	16	16	49.44
	20	121	28	28.20	16	16	49.44
A-5	1	154	52	30.00	9	21	30.96
	2	155	7	30.00	9	21	30.96
	3	155	7	30.00	9	22	30.00
	4	155	22	30.00	9	22	30.00
	5	155	22	30.00	9	20	45.60
	6	155	37	6.60	9	20	29.76
	7	155	37	6.60	9	35	28.68
	8	155	52	30.00	9	35	28.68
	9	155	52	30.00	9	7	30.00
	10	156	22	30.00	9	7	30.00
	11	156	22	30.00	8	37	30.00
	12	156	52	30.00	8	37	30.00
	13	156	52	30.00	9	52	30.00
	14	155	7	30.00	9	52	30.00

Block number	Turning point	Longitude West			Latitude North		
		(degrees)	(minutes)	(seconds)	(degrees)	(minutes)	(seconds)
	15	155	7	30.00	10	7	30.00
	16	155	22	28.20	10	7	30.00
	17	155	22	28.20	10	50	20.40
	18	154	52	30.00	10	50	20.40
A-6	1	144	49	6.60	11	36	24.48
	2	144	20	19.32	11	36	24.48
	3	144	20	19.32	11	0	0.00
	4	145	0	0.00	11	0	0.00
	5	145	0	0.00	11	49	59.88
	6	144	49	6.60	11	49	59.88
A-7	1	139	5	20.40	11	20	36.24
	2	138	38	2.04	11	20	36.24
	3	138	38	2.04	10	58	25.68
	4	139	1	32.88	10	58	25.68
	5	139	1	32.88	10	49	59.52
	6	139	30	0.00	10	49	59.52
	7	139	30	0.00	11	7	30.00
	8	139	35	60.00	11	7	30.00
	9	139	35	60.00	11	26	21.84
	10	139	5	20.40	11	26	21.84
A-8	1	139	26	0.24	13	32	33.72
	2	138	58	48.00	13	32	33.72
	3	138	58	48.00	13	26	52.80
	4	139	8	24.00	13	26	52.80
	5	139	8	24.00	13	3	28.80
	6	139	48	0.00	13	3	28.80
	7	139	48	0.00	13	40	8.76
	8	139	26	0.24	13	40	8.76

B. Map of the general location of the area under application


Application for approval of a plan of work within reserved areas by China Minmetals Corporation
sponsored by the Government of the People's Republic of China
Mendocino Fracture Zone
United States of America
Mexico
N
Clarion Fracture Zone
Rep. of Korea
IFREMER
DORD
GSR
InterOceanMetal
OMS
NORI
UKSRL
BGR
COMRA
Clipperton Fracture Zone
Kiribati
Kilometres
WGS 1984 World Mercator
Area under application by China Minmetals Corporation (CMC)
Contract area or contract approved as of 25 July 2014
©International Seabed Authority, 2014. Background map: ESRI
Ocean Mineral Singapore Pte Ltd. (OMS)
Cook Islands Investment Corporation (CIIC)
Marawa Research and Exploration Ltd (Kiribati)
Bundesanstalt für Geowissenschaften und Rohstoffe (BGR, Germany)
China Ocean Mineral Resources Research and Development Association (COMRA, China)
Deep Ocean Resources Development Company (DORD, Japan)
G-TEC Minerals Resources NV (GSR, Belgium)
Government of the Republic of Korea
Institut français de recherche pour l'exploitation de la mer (IFREMER, France)
Interoceanmetal (IOM, Bulgaria, Cuba, Czech Republic, Poland, Russian Fed., Slovakia)
Nauru Ocean Resources Inc. (NORI, Nauru)
Tonga Offshore Mining Ltd (TOML, Tonga)
UK Seabed Resources Ltd (UKSRL, UK)
Yuzhmorgeologia (Russian Federation)
UK Seabed Resources Ltd. (UKSRL, 2nd plan of work)
Reserved area*
Area of particular environmental interest (APEI)**
Exclusive Economic Zones